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NAROP0335US

Amendments to Claims

Please amend the claims as in the following listing:

1. (Canceled)

2. (Currently Amended) A cleaning additive for cleaning furnace walls and inductor loops by fluxing and fluidizing build-up in molten iron, The additive of claim 1, wherein the additive comprising: includes:

8 to 28.7% calcium carbonate;

0 to 18.5% magnesium carbonate;

3.6 to 18.0% alumina;

1.4 to 7.1% silica; and

19.4 to 46.4% sodium oxide, as soda ash;

wherein the additive is substantially fluorspar free; and

such that in use the additive removes and coalesces emulsified slag particles, and softens build-up on furnace sidewalls and inductor throats, without attack on furnace refractory, as occurs with fluorspar fluxing additives.

3. (Currently Amended) The furnace cleaning additive of claim 2, 4, wherein the additive includes:

12 to 16% calcium carbonate;

11.5 to 15% magnesium carbonate;

8 to 14% alumina;

4.5 to 6.5% silica; and

26.1 to 31.9% sodium oxide, as soda ash.

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4. (Currently Amended) The cleaning additive of claim 6, 4, further comprising a release agent that includes polyglycol.

5. (Canceled)

6. (Currently Amended) The cleaning additive of claim 2, 4, wherein the additive is an agglomeration.

7. (Currently Amended) The cleaning additive of claim 2, 4, wherein the additive is a powder.

8. (Canceled)

9. (Currently Amended) A method of treating in molten iron in a furnace or treatment vessel, the method comprising: The method of claim 7, wherein the adding includes adding a flux composition that includes:

adding a cleaning additive to the iron;

wherein the cleaning additive includes:

8 to 28.7% calcium carbonate;

0 to 18.5% magnesium carbonate;

3.6 to 18.0% alumina;

1.4 to 7.1% silica; and

19.4 to 46.4% sodium oxide, as soda ash;

wherein the cleaning additive is substantially fluorspar free; and

wherein the adding of the cleaning additive includes removing and coalescing emulsified slag particles, and softening build-up on refractory of the furnace or treatment vessel.

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10. (Currently Amended) The method of claim 9, 7, wherein the cleaning additive consists essentially of: ~~adding includes adding a flux composition that includes:~~

12 to 16% calcium carbonate;  
11.5 to 15% magnesium carbonate;  
8 to 14% alumina;  
4.5 to 6.5% silica; and  
26.1 to 31.9% sodium oxide, as soda ash.

11. (Currently Amended) The method of claim 9, 7, wherein the adding includes adding the cleaning additive flux composition as an agglomeration.

12. (Currently Amended) The method of claim 9, 7, wherein the adding includes adding the cleaning additive flux composition as a powder.

13. (Currently Amended) The method of claim 9, 7, wherein the adding includes included adding a bag containing the powder.

14. (Currently Amended) The method of claim 9, 7,  
wherein the molten iron metal is in the a furnace; and  
wherein the adding includes putting the flux composition into the furnace.

15. (Currently Amended) The method of claim 14, 43, wherein the furnace is an electric coreless induction furnace.

16. (Currently Amended) The method of claim 14, 43, wherein the furnace is a vertical channel furnace that employs an inductor loop.

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17. (Currently Amended) The method of claim 14, 43, wherein the furnace is a pressure pour furnace that employs an inductor loop.

18. (Currently Amended) The method of claim 9, 7,  
~~wherein the molten metal is in a ladle; and~~  
wherein the adding includes putting the cleaning additive flux composition into molten iron in a the ladle; and  
further comprising pouring the molten iron and the cleaning additive into the furnace.

19. (Currently Amended) The method of claim 9, 7, wherein the adding includes adding an amount of the cleaning additive flux composition from 0.01 to 0.75% of the weight of the molten metal.

20. (Currently Amended) The method of claim 9, 7, wherein the adding includes adding an amount of the cleaning additive flux composition from 0.01 to 0.10% of the weight of the molten metal.

21. (Currently Amended) The method of claim 9, 7, wherein the adding includes adding an amount of the cleaning additive flux composition from 0.025 to 0.075% of the weight of the molten metal.

22. (Currently Amended) The method of claim 9, 7, wherein the adding includes adding an amount of the cleaning additive flux composition from 0.035 to 0.075% of the weight of the molten metal.

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23. (New) The additive of claim 2, wherein the alumina and the silica are in the form of a complex aluminosilicate.

24. (New) A cleaning additive for cleaning furnace walls and inductor loops by fluxing and fluidizing slags in molten metal, the additive consisting essentially of:

8 to 28.7% calcium carbonate;

0 to 18.5% magnesium carbonate;

3.6 to 18.0% alumina;

1.4 to 7.1% silica; and

19.4 to 46.4% sodium oxide, as soda ash;

wherein the additive is substantially fluorspar free; and such that in use the additive removes and coalesces emulsified slag particles, and softens build-up on furnace sidewalls and inductor throats, without attack on furnace refractory, as occurs with fluorspar fluxing additives.